

Remarks

Claims 1-15 are pending. Claims 1-15 have been rejected. Claim 16 has been withdrawn.

Claim Rejections – §103

The USPTO rejects the present application under 35 U.S.C. §103 as unpatentable over LAUBE (US 5,426,147) in view of evidence in KITAHARA (US 4,525,541). Applicants respectfully submit that the examiner has not presented a *prima facie* case of obviousness.

The examiner points out that “it is well settled that it is *prima facie* obvious to combine two ingredients, each of which is targeted by prior art to be useful for the same purpose. *In re Linder* 457 F.2d 506, 509, 173 USPQ 356, 359 (CCPA 1972).”

As stated by the examiner, combination of two ingredients that are *targeted by the prior art to be useful for the same purpose* may be *prima facie* obvious. However, the LAUBE reference does **not** teach that the two ingredients (carbon blacks having a DBP of less than about 45, and carbon blacks having a DBP of from about 70 to about 140) are useful for the same purpose, but teaches away from using one of the ingredients for purposes stated in the LAUBE reference. N660, which is a carbon black with a DBP value that falls within the range of the second carbon black claimed by Applicants, is described as the “conventional” carbon black used in the LAUBE Examples as a “control.” *See* LAUBE Column 4, lines 64-68. LAUBE mentions several disadvantages to using “conventional” carbon blacks such as N660.

The LAUBE reference is oriented toward producing a composition using a carbon black to reduce gas permeability. LAUBE states that “[t]he results set forth in Table 3 show that the rubber compositions of Examples 7-12 utilizing the carbon blacks of the present invention exhibit reduced gas permeability as compared with rubber compositions of Examples 13 and 14 utilizing the control furnace blacks ASTM N772 and ASTM N660.” LAUBE Column 7, lines 7-12. LAUBE, therefore expressly states that N660 is targeted as *not* useful for the same purpose of the inventive carbon blacks, *i.e.* for decreasing the gas permeability of

the rubber compound. LAUBE goes on to state that “[t]he results further indicate that rubber compositions utilizing the furnace blacks of the invention exhibit higher thermal conductivity than rubber compositions incorporating the control furnace blacks.” LAUBE Column 7, lines 21-25. LAUBE, therefore expressly states that N660 is targeted as *not* useful for the same purpose of the inventive carbon blacks, *i.e.* for increasing the thermal conductivity of the rubber compound. As such, the LAUBE reference teaches that the two ingredients are *not* useful for the same purpose, and Applicants submit, therefore, that examiner has not presented a *prima facie* case of obviousness under the *In re Linder* standard.

MPEP §2143 requires that the examiner meet three basic criteria to establish a *prima facie* case of obviousness. The three criteria are: (1) “there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings” (2) “there must be reasonable expectation of success” and (3) “the prior art references (or the references when combined) must teach or suggest all the claim limitations.”

Applicants submit that the examiner has not established prong 1, that is a showing that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. As stated above, the LAUBE patent teaches away from using conventional carbon blacks (*e.g.* those with DBP values within the range of the “second carbon black” of the claimed invention) in rubber compositions. The examiner has not stated any prior art that suggests modifying the LAUBE reference, or combining it with any other reference. The examiner has also not suggested any reason to modify the LAUBE reference or combine the LAUBE reference with any other teaching.

Applicants also submit that the examiner has not established prong 2, that there is reasonable expectation of success. As stated above, LAUBE teaches away from using conventional carbon blacks (*e.g.* those with DBP values within the range of the “second carbon black” of the claimed invention) in rubber compositions. The examiner has not stated any prior art that favors using a carbon black with DBP values within the range of the “second carbon black” of the claimed invention. Further, the examiner has not stated any reason that there would be expectation of success using a combination of carbon blacks with DBP values in the two claimed ranges in a rubber composition.

Applicants submit that the examiner has not established prong 3, that the prior art references (or the references when combined) teach or suggest all the claim limitations. Claims 1 and 9 of the application are the only independent claims. Both include at least the following limitations:

- 1) a first carbon black having a DBP absorption of about 45 or less, and
- 2) a second carbon black having a DBP absorption of from about 70 to about 140.

Neither the LAUBE nor the KITAHARA reference teach using a combination of the first and second carbon blacks of the current invention. KITAHARA mentions using carbon black only generally, as a reinforcing agent. LAUBE discloses the use of carbon blacks with a DBP of from about 28 to about 65. *See* LAUBE, Column 1 lines 58-65, Column 1 line 66 to Column 2 line 2, Column 2 lines 59-63, Column 3 lines 11-16, Claim 1, and Claim 12. In one example, LAUBE teaches the use of a carbon black (N660) which has a DBP of 90. *See* LAUBE Table 1 (Column 5 lines 1-16). LAUBE describes N660 as a “conventional” carbon black, used only as a “control.” *See* LAUBE Column 4, lines 63-66. N660 is used *alone* in rubber compound 14 (also labeled as 14*) with *no other carbon blacks*. *See* LAUBE Table 2 (Column 5, lines 22-39). LAUBE does not teach the use of two carbon blacks with different DBP values in the rubber. Further, LAUBE does not teach the use in rubber of *combinations of* carbon blacks with different DBP values, let alone combinations of carbon blacks with different DBP values that are within the ranges claimed in the present application. Because neither LAUBE nor KITAHARA teach the *claimed limitation of a combination of carbon blacks with DBP values in two different ranges* in a rubber composition, not all of the elements claimed in the present application are present in any of the cited references.

Applicants therefore submit that the examiner has not presented a *prima facie* case of obviousness under the *In re Linder* standard, or by satisfying the prongs as stated in the MPEP, namely, (1) that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, (2) that there is reasonable expectation of

success, and (3) that the prior art references (or the references when combined) teach or suggest all the claim limitations.

Claim Objections

Claims 4 and 11 are objected to because they claim rubber comprising monomers that have “about” X carbon atoms. The examiner states that “applicants either have 4 carbon atoms or they don’t. butadiene [sic] does not have about 4 carbon atoms. It has 4.” Applicant does not understand examiner’s basis for objection. Examiner cites no authority for this objection, so that Applicant can form a basis for compliance with.

MPEP §2173.05(b) states that “[t]he fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph.” The MPEP suggests instances in which the word “about” does and does not render a claim indefinite. For example, the claim language “exceeding about 10% per second” was not indefinite because “infringement could be clearly assessed through the use of a stopwatch.” MPEP §2173.05(b) A. Applicants submit that in the present case infringement can be similarly assessed through counting the number of carbon atoms in the monomer.

Nowhere does Applicant mention that *butadiene* has about 4 carbon atoms as suggested by the examiner, only that the *conjugated diene* of claims 4 and 11 has “from about 4 to about 12 carbon atoms.” Though examiner correctly points out that butadiene has 4 carbon atoms, the examiner has not stated that the phrase “about 4 carbon atoms” cannot include, for example, a diene with 3 carbon atoms, or a diene with 5 carbon atoms, or any authority upon which the examiner can base such a statement.

The word “about” as used in this instance modifies the range as a whole. The claim language “from about 4 to 12,” for example, therefore covers conjugated dienes where the number of carbon atoms fall in the range of from about 4 to 12. Because the examiner has not indicated a reason for the objection, nor authority upon which the objection is based, Applicant respectfully traverses the objection.

In light of the foregoing, Applicants believe that pending claims 1-15 should be considered novel and unobvious over the cited references. A Notice of Allowance for these claims is respectfully solicited. If any further information is required by the Office from the inventors or their Assignee, please contact the undersigned.

Respectfully Submitted By:

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Date

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